

DECISION TREE BASED SPEECH RECOGNITION**ABSTRACT OF THE DISCLOSURE**

5

10

15

20

25

30

A method (200) is described for creating decision trees for processing a sampled signal indicative of speech. The method (200) includes providing model sub vectors (220) from partitioned statistical speech models of phones, the models comprising vectors of mean values and associated variance values. The method (200) then provides for statistically analyzing (230) the model sub vectors of mean values to provide projection vectors indicating directions of relative maximum variance between the sub vectors and thereafter the method provides for calculating projection values (240) of the projection vectors. A selecting potential threshold values (260) step is then applied, the potential threshold values being determined from analysis of a range of the projection values. Finally a step of creating the decision trees (270) is effected to provide a decision tree having decisions to divide the model sub vectors into groups, the groups being leaves of the tree. The decisions are based upon selected threshold values selected from the potential threshold values, the selected threshold values being selected by change in variance between said model sub vectors the variance being determined from said mean values and associated variance values. There is also described a method for speech recognition (300) that uses the decisions trees created by the method (200).